

* SWBAT explain how temperature relates to size and molecule motion

Sep 6-2:31 PM

Welcome!!!

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WBL ALC Physics
Thursday 18 December 2014

- * Sign in
- * Pick up:
 - worksheet
 - slip of paper (for later)



Opening question: **Worksheet**

New unit: Heat and Temperature

Let me know what you already know...

Sep 7-7:04 AM

Topic: Heat and size NAME
DATE 12/18/14

Essential Q: What does temperature mean and how does it affect the size of something?

Heating metal ball... HOTTER BALL GOT BIGGER & DIDN'T FIT IN RING

http://www.youtube.com/watch?v=cr1p9_jbT864
Balloons in the cold! COLDER BALLOON GOT SMALLER BUT CAN WARM IT UP & IT EXPANDS BACK

<http://www.youtube.com/watch?v=5tu-rTHagQ>
Eureka 19

EXPAND & CONTRACT:
HOW COME?

Heat \Rightarrow KINETIC ENERGY OF ATOMS MOVING

- MOLECULES = LITTLE BITS
- VIBRATIONS = WIGGLE
- HOTTER \Rightarrow FASTER MOLECULES MOVE \Rightarrow MORE SPACE THEY TAKE UP

SIMULATOR:
<http://phet.colorado.edu/en/simulation/gas-properties>
A way of thinking about temperature...

ALL THE SAME SPEED? NO, SOME FAST, SOME SLOW

ADD HEAT \Rightarrow TEMP. UP, MOVE FASTER

TEMP \Rightarrow AVERAGE ENERGY OF MOLECULES

Summary: Answer the "Essential Question"

- based on today's class
- using new terms (temperature, heat, molecule)
- one or more complete sentences

Dec 14-7:13 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

CP homework: What is one other example of warm things expanding or cooler things shrinking?

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. When we raised the temperature of the metal ball, what happened to its size?

- ☒ A. got bigger
- ☐ B. didn't change size
- ☐ C. got smaller

2. When balloon went outside in the cold, what happened to the size of the air inside it?

- ☐ A. got bigger
- ☐ B. didn't change size
- ☒ C. got smaller

3. This is because higher temperature means the molecules are

- ☐ A. moving slower on average
- ☐ B. moving the same on average
- ☒ C. moving faster on average

Dec 2-7:55 AM